

FIG. 1

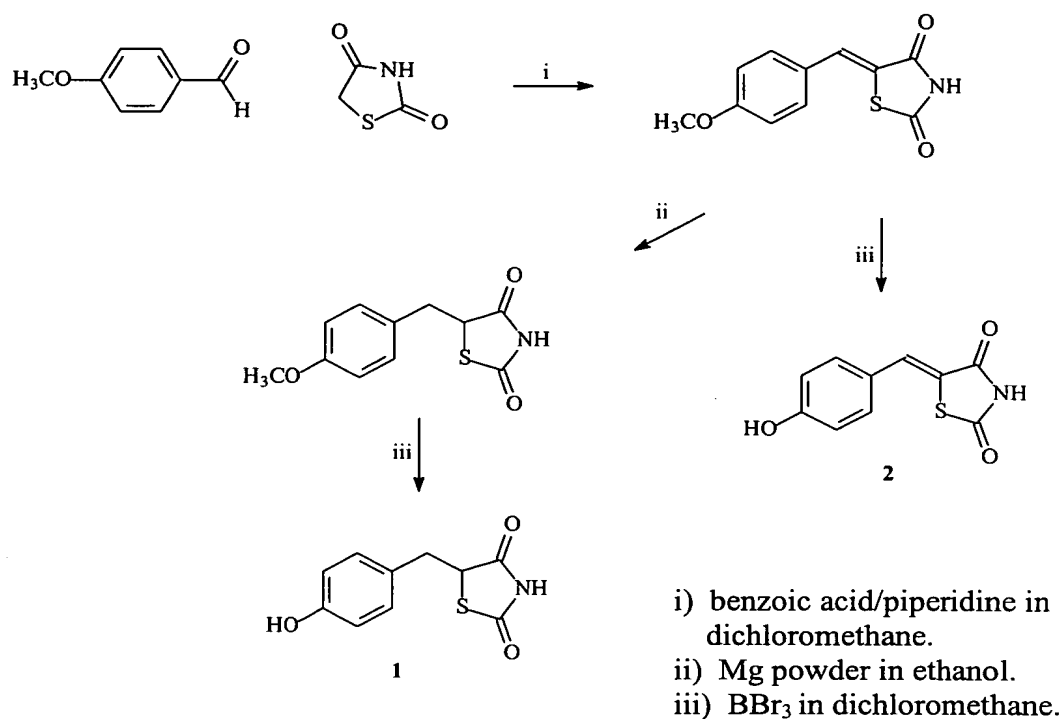


FIG. 2

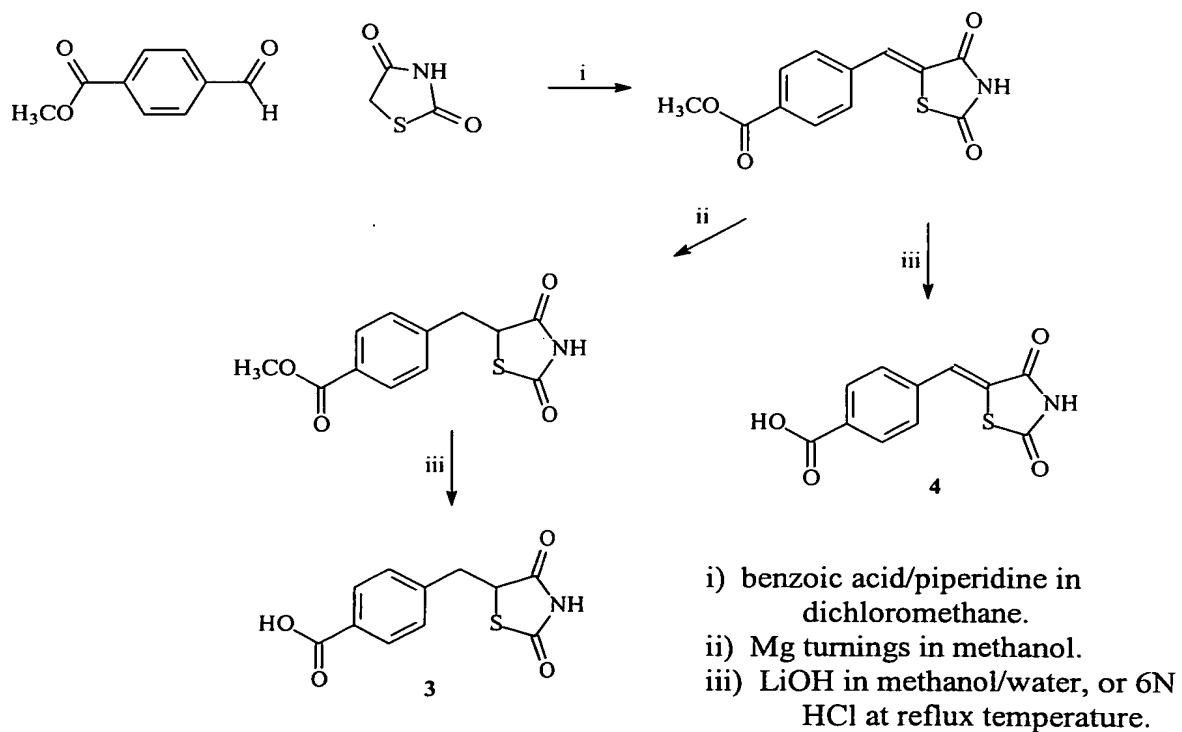


FIG. 3

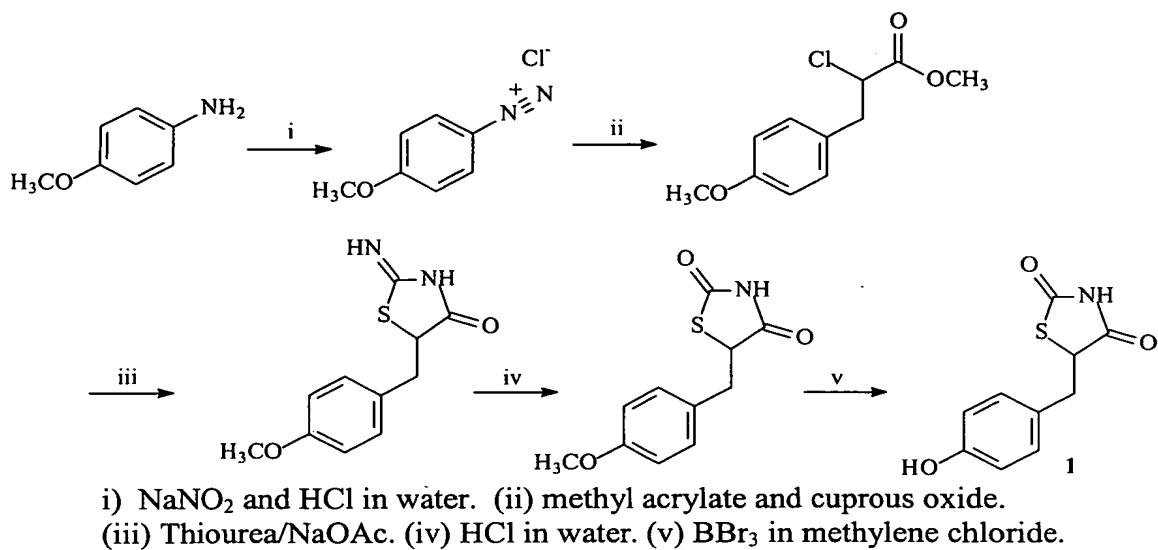


FIG. 4

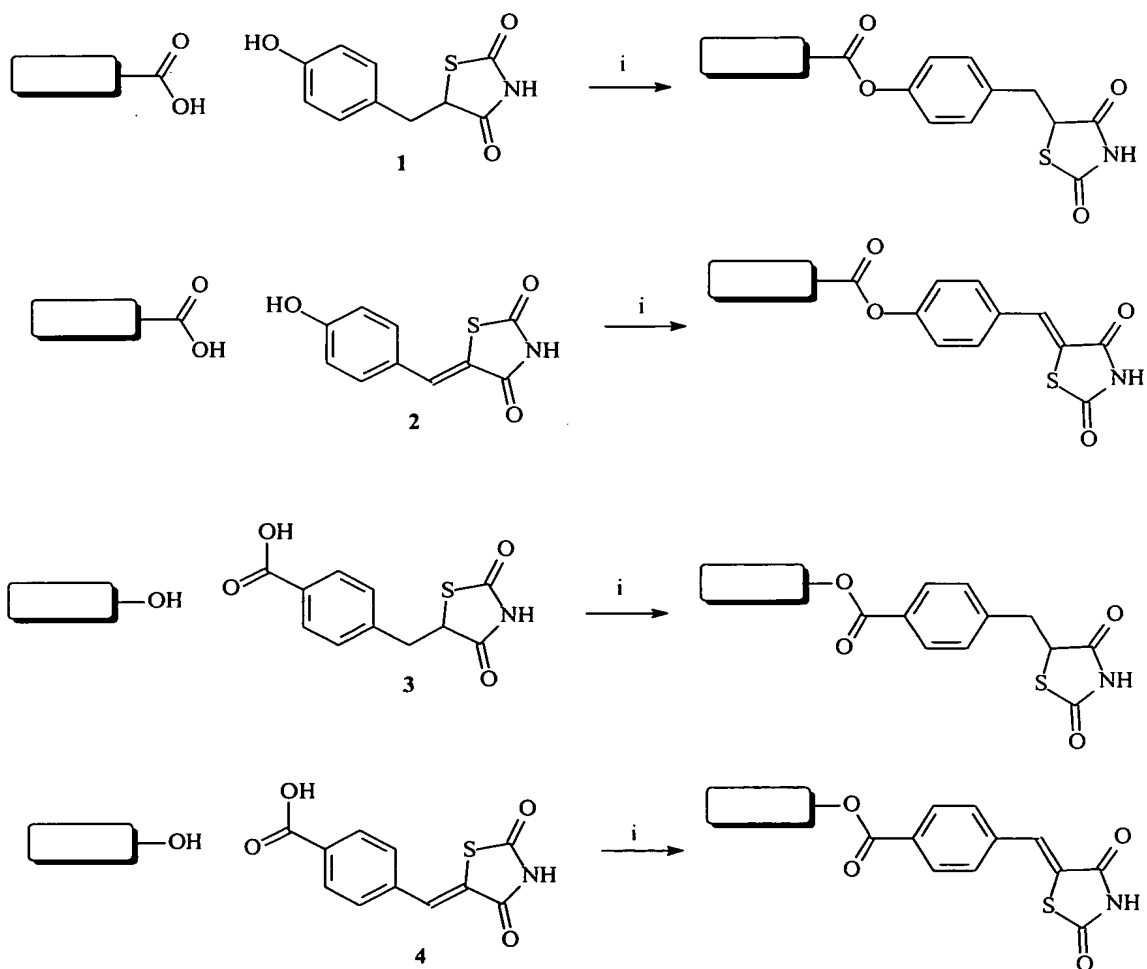
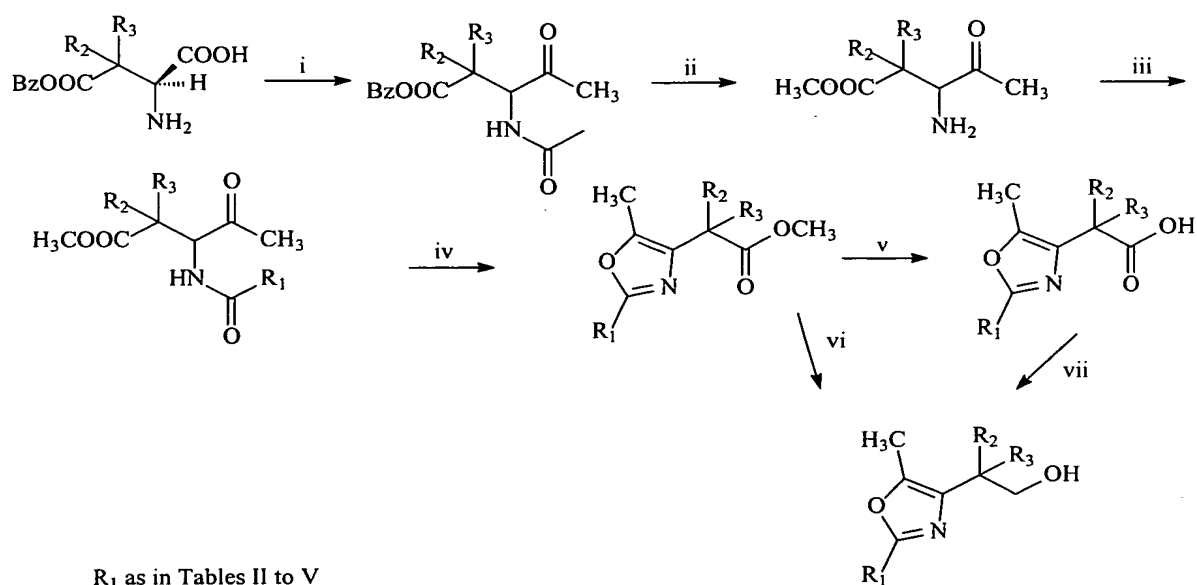


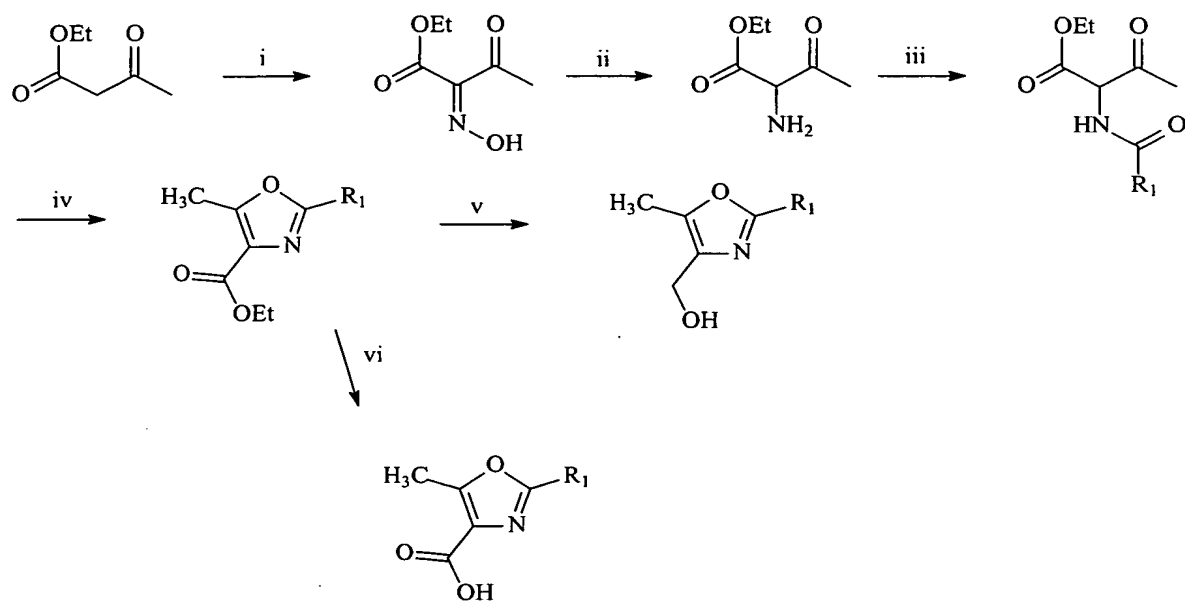
FIG. 5



R₁ as in Tables II to V
R₂ and R₃ = H or CH₃

(i) Et₃N/Ac₂O/DMAP, then H₂O/KOH pH9.0. (ii) 6N HCl, then MeOH/SOCl₂. (iii) R₁COCl/Et₃N.
(iv) H₂SO₄ (cat) in EtOAc. (v) LiOH in MeOH/H₂O. (vi) LAH/THF. (vii) B₂H₆, or SOCl₂ then NaBH₄.

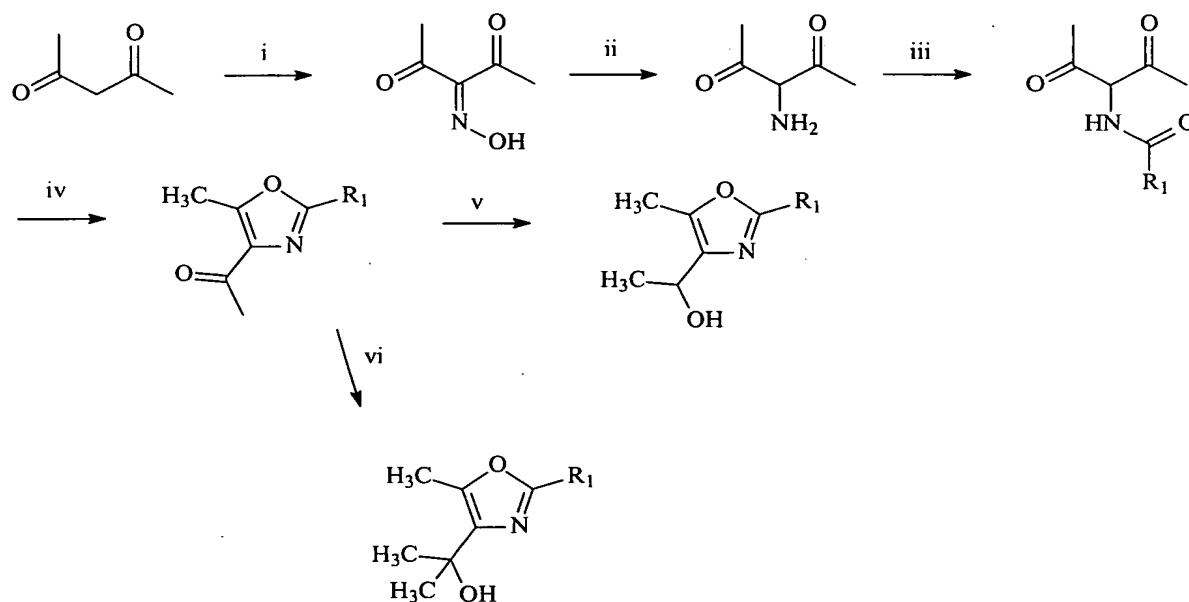
FIG. 6



R1 as in Tables II to V

(i) $\text{NaNO}_2/\text{AcOH}$. (ii) Zn powder. (iii) $\text{R}_1\text{COCl}/\text{Et}_3\text{N}$. (iv) H_2SO_4 (cat) in EtOAc . (v) LAH/THF .
 (vi) LiOH in $\text{MeOH}/\text{H}_2\text{O}$.

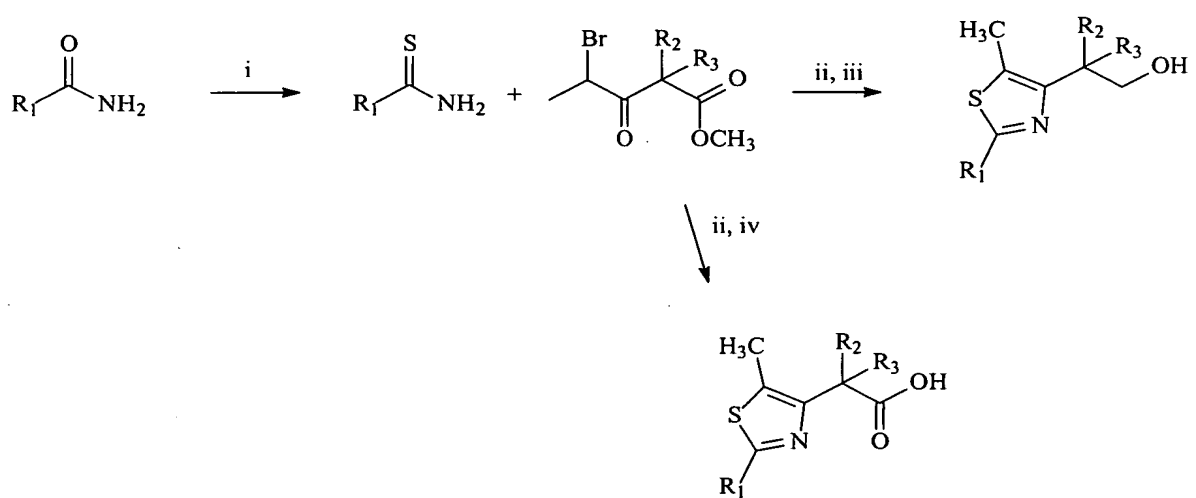
FIG. 7



R₁ as in Tables II to V

(i) $\text{NaNO}_2/\text{AcOH}$. (ii) Zn powder. (iii) $\text{R}_1\text{COCl}/\text{Et}_3\text{N}$. (iv) H_2SO_4 (cat) in EtOAc. (v) NaBH_4 .
 (vi) CH_3MgBr in THF.

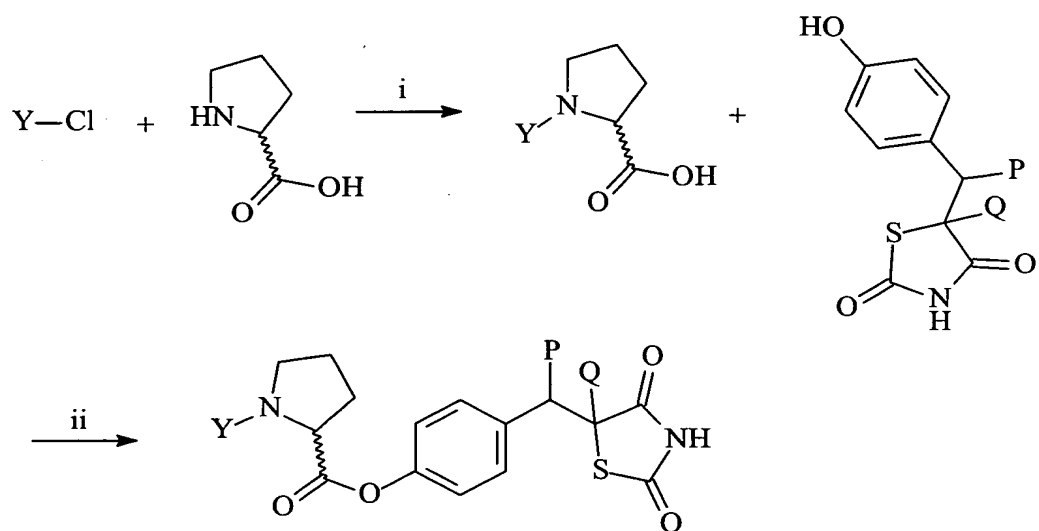
FIG. 8



R_1 as in Tables II to V
 R_2 and $R_3 = H$ or CH_3

(i) Lawesson's reagent. (ii) Toluene/ Δ (iii) LAH/THF. (iv) LiOH in MeOH/ H_2O .

FIG. 9



P and Q = H or double bond

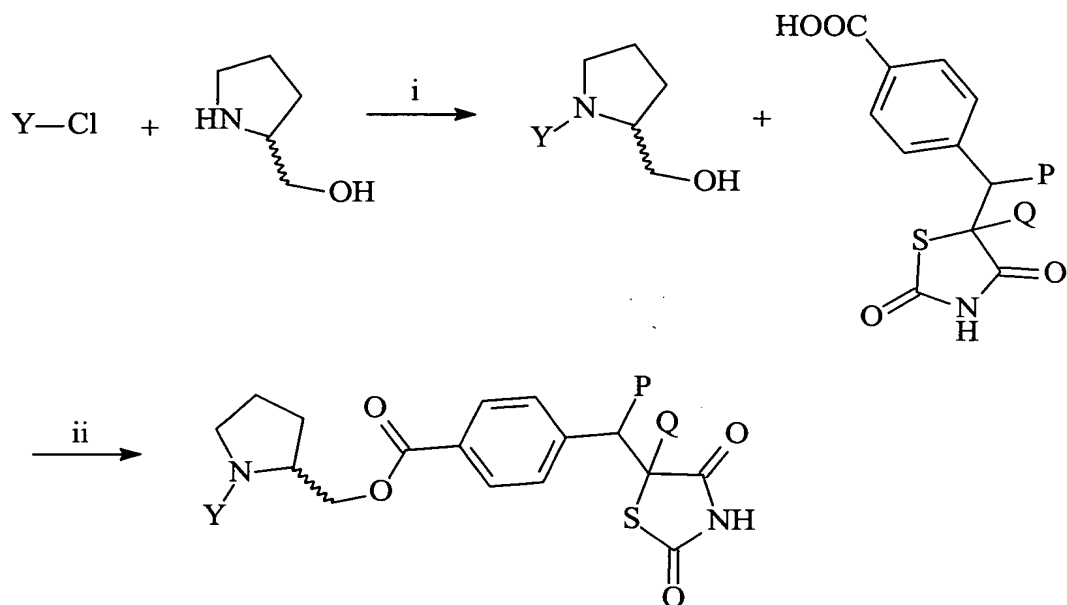
Y = 2-Benzoxazolyl, 2-Benzothiazolyl, 2-Pyridyl, 4,5-Dimethyl-2-thiazolyl,

(R)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl,

(S)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl

(i) Et_3N/THF . (ii) DCC/DMAP in methylene chloride.

FIG. 10

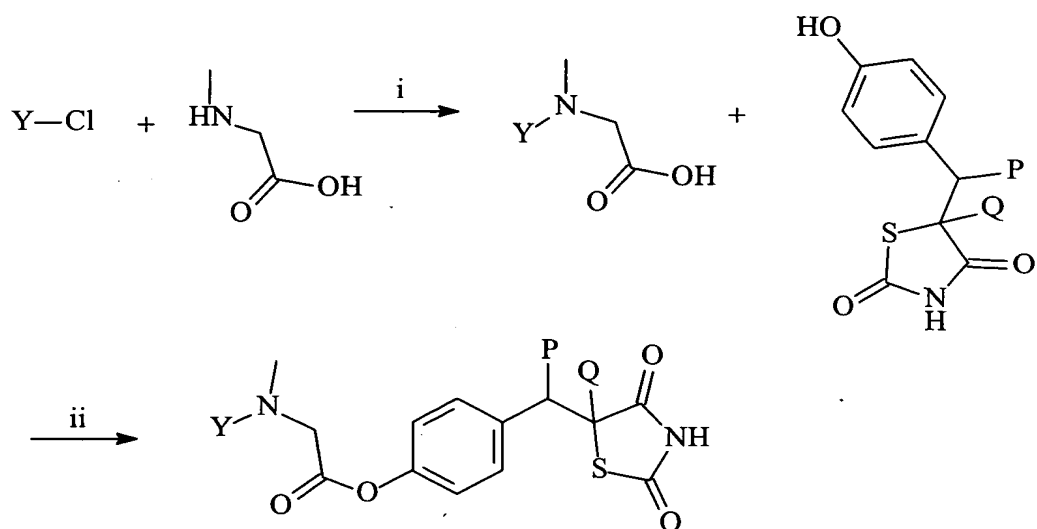


P and Q = H or double bond

Y = 2-Benzoxazolyl, 2-Benzothiazolyl, 2-Pyridyl, 4,5-Dimethyl-2-thiazolyl,
 (R)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl,
 (S)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl

(i) Et_3N/THF . (ii) DCC/DMAP in methylene chloride.

FIG. 11

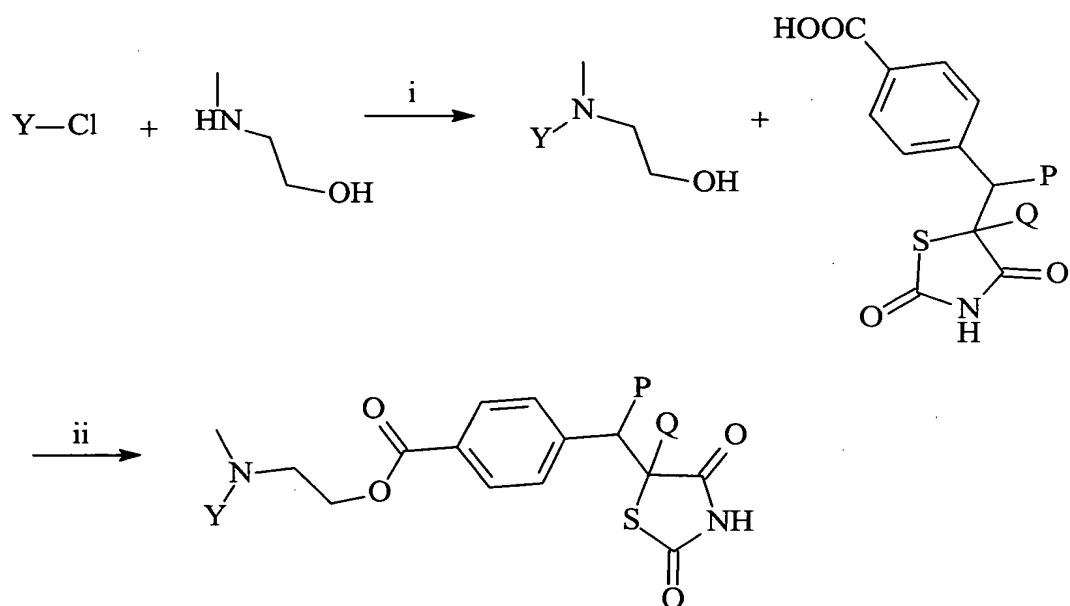


P and Q = H or double bond

Y = 2-Benzoxazolyl, 2-Benzothiazolyl, 2-Pyridyl, 4,5-Dimethyl-2-thiazolyl,
 (R)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl,
 (S)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl

(i) Et_3N/THF . (ii) DCC/DMAP in methylene chloride.

FIG. 12

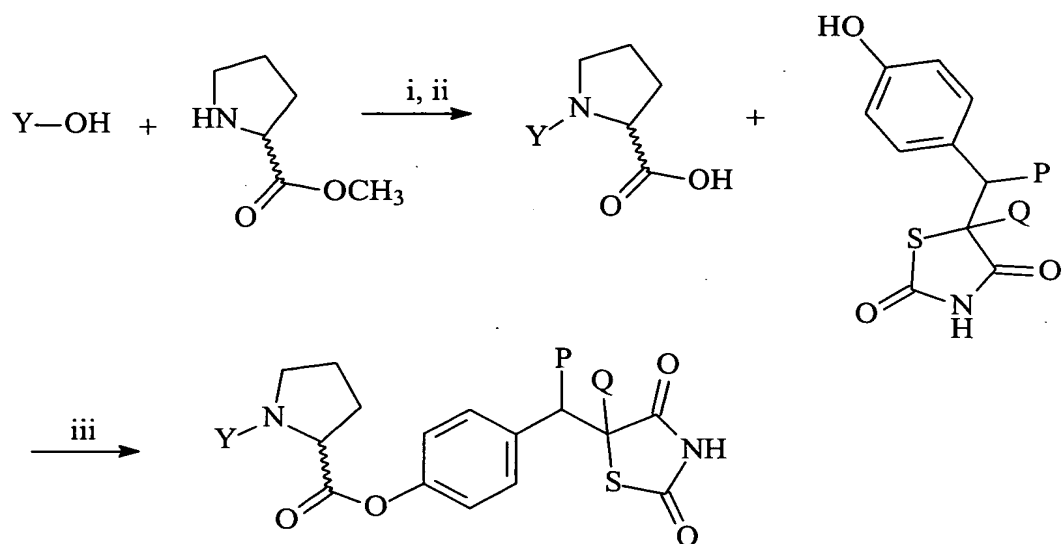


P and Q = H or double bond

Y = 2-Benzoxazolyl, 2-Benzothiazolyl, 2-Pyridyl, 4,5-Dimethyl-2-thiazolyl,
 (R)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl,
 (S)-6-Hydroxy-2,5,7,8-tetramethylchromanyl-2-methyl

(i) Et_3N/THF . (ii) DCC/DMAP in methylene chloride.

FIG. 13



P and $Q = H$ or double bond

$Y = (R)$ -6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

(S) -6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

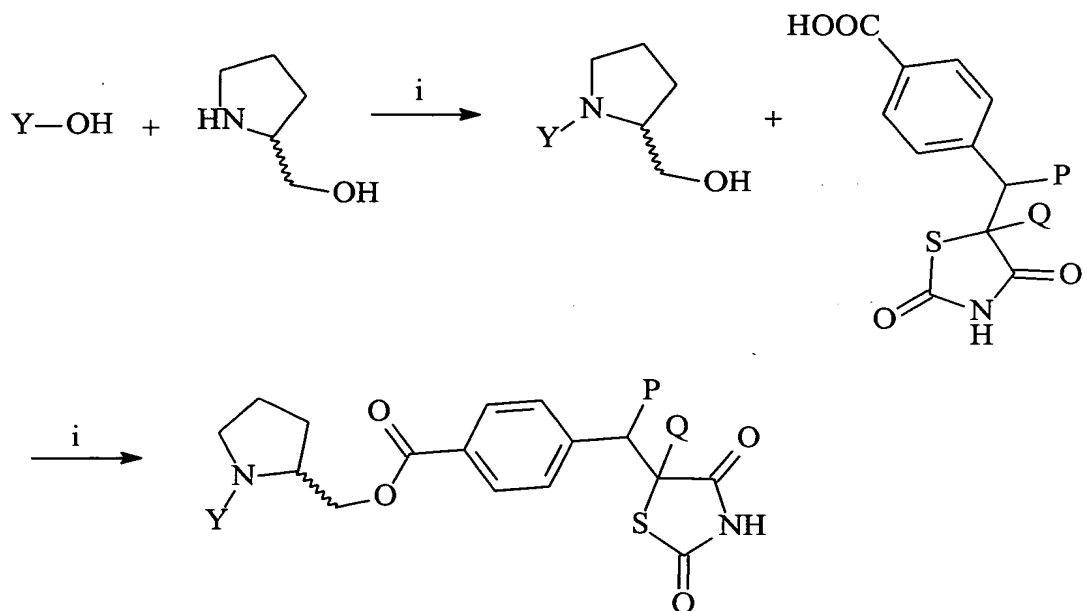
(R) -2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl,

(R) -2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl.

(i) DCC/DMAP in methylene chloride. (ii) LiOH in MeOH/H₂O.

(iii) DCC/DMAP in methylene chloride.

FIG. 14



P and Q = H or double bond

Y = (R)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

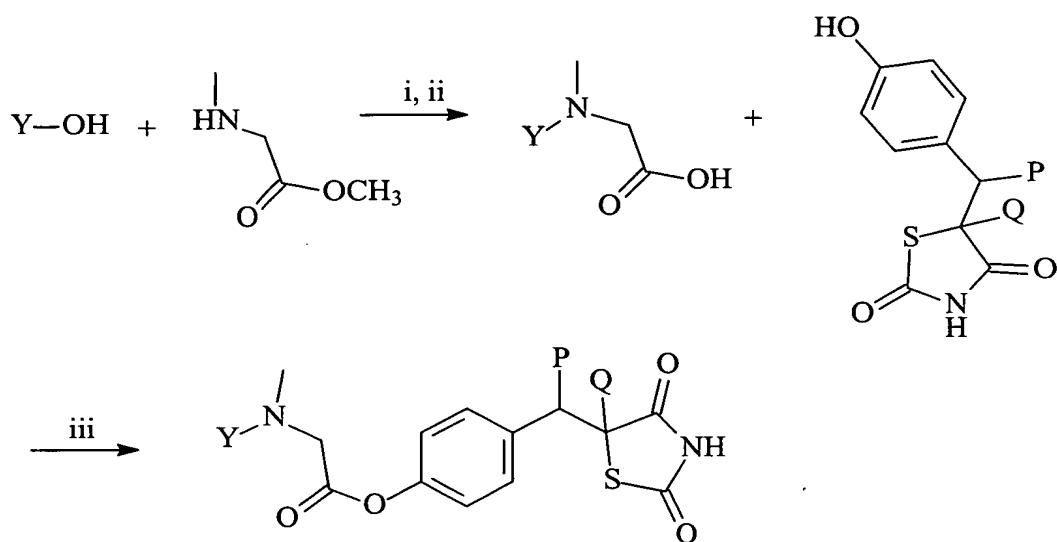
(S)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

(R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl,

(R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl.

(i) DCC/DMAP in methylene chloride.

FIG. 15



P and Q = H or double bond

Y = (R)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

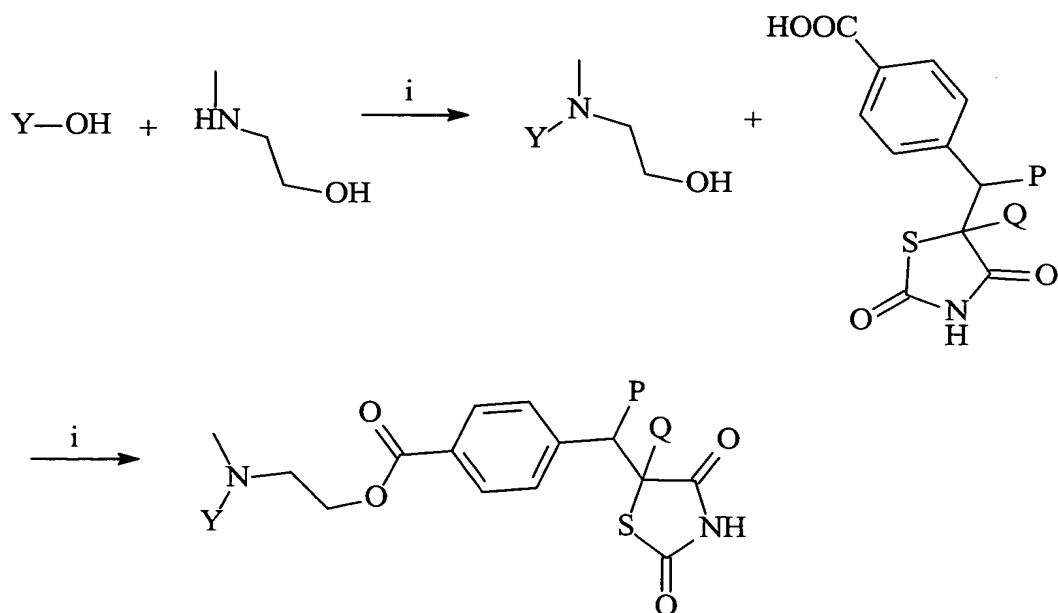
(S)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl,

(R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl,

(R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl.

(i) DCC/DMAP in methylene chloride. (iii) LiOH in MeOH/H₂O.
 (iii) DCC/DMAP in methylene chloride.

FIG. 16

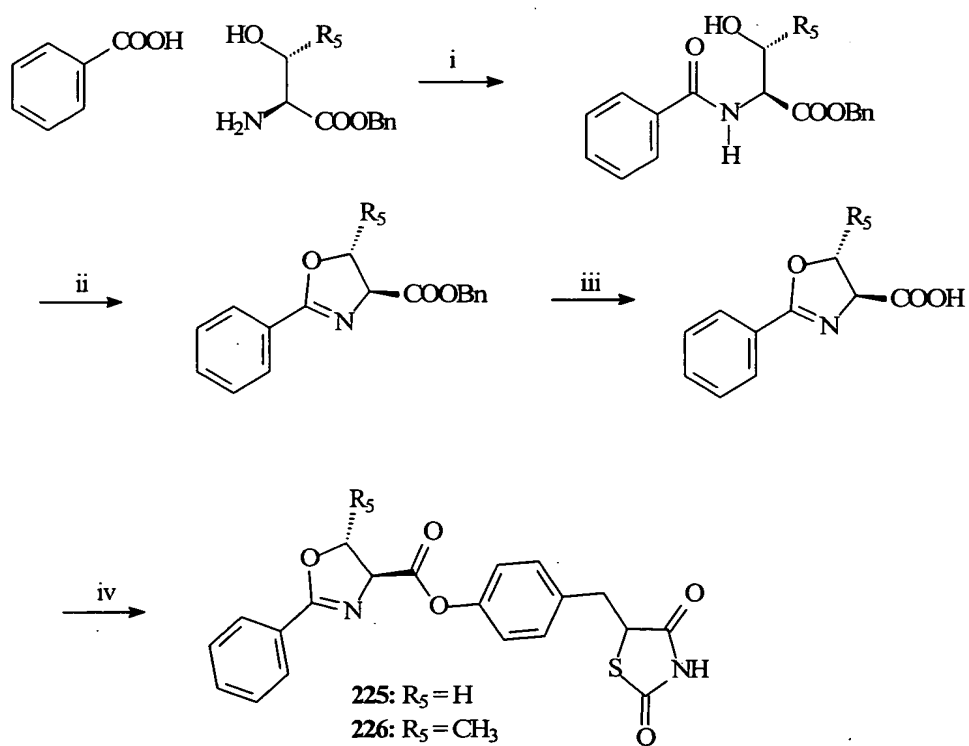


P and Q = H or double bond

Y = (R)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl, (S)-6-Hydroxy-2,5,7,8-tetramethylchroman-2-carbonyl, (R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl, (R)-2,3-Dihydro-2,2,5,6,7-pentamethyl-5-hydroxy-benzofuran-3-carbonyl.

(i) DCC/DMAP in methylene chloride.

FIG. 17



(i) EDC in methylene chloride. (ii) $SOCl_2$. (iii) $H_2/Pd/C$. (iv) DCC/DMAP/1 in methylene ch

FIG. 18

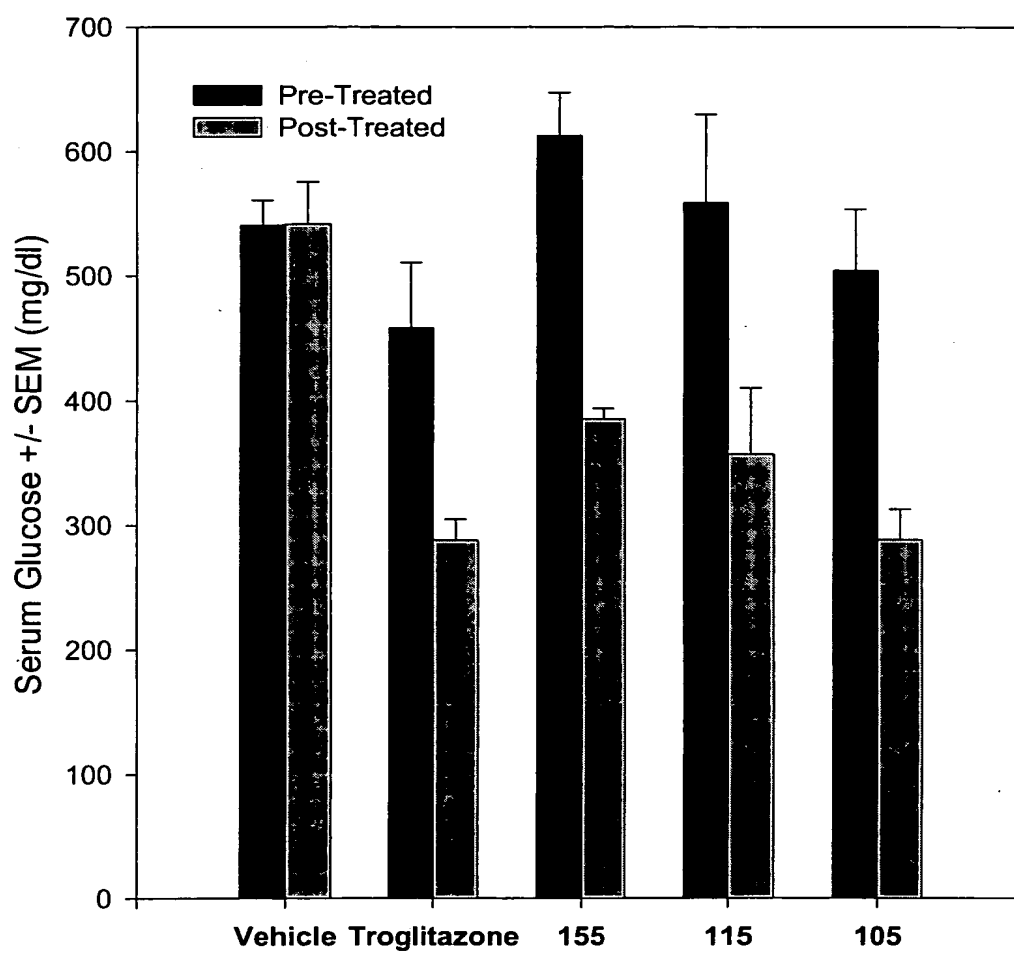


FIG. 19

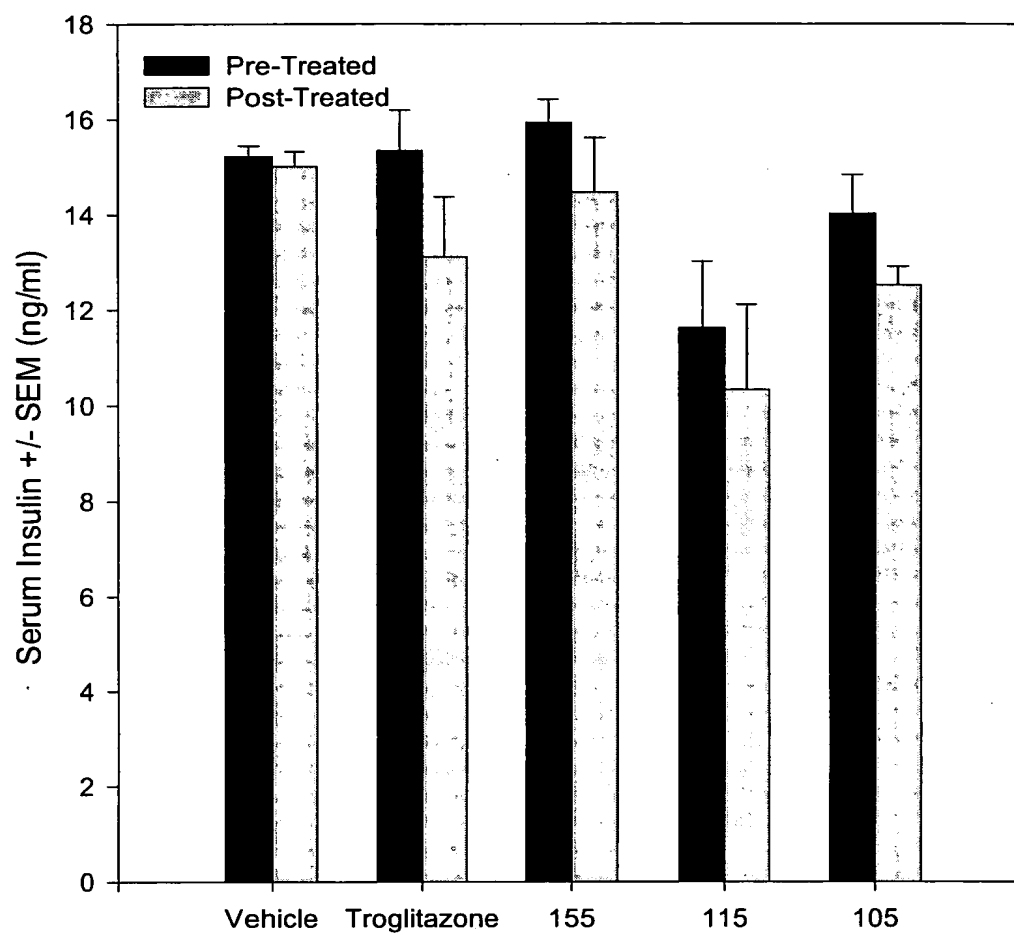


FIG. 20